

Solid State Devices, Inc.

14830 Valley View Blvd * La Mirada, Ca 90638

Phone: (562) 404-7855 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SPA555

┌┐ Terminals ^{2/} = Turret Terminals
L = Copper Leads
SM = Surface Mount

Voltage M = 1000 V
N = 1200 V

SPA555 Series

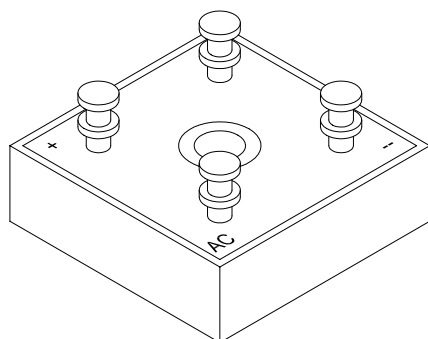
20A / 1000 - 1200V SiC SCHOTTKY SINGLE PHASE BRIDGE

Features:

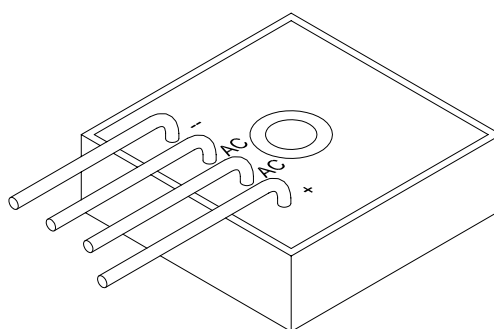
- 1200V Silicon Carbide Schottky Rectifier
- Average Output Current 20 Amps
- No Reverse Recovery
- No Forward Recovery
- No Switching Time Change over Temperature
- Small Package Size (1.25 x 1.25 x 0.350")
- Cases with Aluminum Heatsink are Available. Consult Factory
- TX and TXV & S Level Screening Available

Maximum Ratings		Symbol	Value	Units
Peak Repetitive and Peak Surge Reverse Voltage	SPA555M SPA555N	V_{RRM} V_{RSM} V_R	1000 1200	Volts
Average Rectified Forward Current ^{4/} (Resistive Load, 60 Hz Sine Wave, $T_C = 55^\circ\text{C}$)		I_O	20	Amps
Peak Surge Current ^{3/} (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)		I_{FSM}	30	Amps
Operating & Storage Temperature		T_{op} & T_{stg}	-55 to +150	$^\circ\text{C}$
Junction Temperature		T_J	-55 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	1.5	$^\circ\text{C/W}$

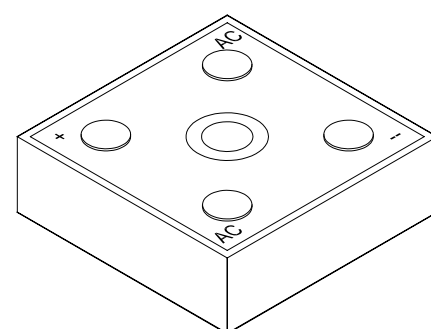
SPA555 ()



SPA555 (L)



SPA555 (SM)



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RA0038C

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SPA555 Series

Electrical Characteristic ^{5/}		Symbol	Min	Typ	Max	Units
Instantaneous Forward Voltage Drop (T _A =25°C, 300 - 500 µsec pulse)	I _F = 2.0 A	V _{F1}	—	1.20	1.30	V _{DC}
	I _F = 5.0 A	V _{F2}	—	1.50	1.75	
	I _F = 10 A	V _{F3}	—	2.10	2.50	
Instantaneous Forward Voltage Drop (300 - 500 µsec pulse)	T _A = -55°C, I _F = 5 A	V _{F4}	—	1.35	1.50	V _{DC}
	T _A = 150 °C, I _F = 5 A	V _{F5}	—	2.30	2.80	
Reverse Leakage Current (Rated V _R , T _A = 25°C, 300 µsec pulse minimum)		I _{R1}	—	20	250	µA
Reverse Leakage Current (Rated V _R , T _A = 150°C, 300 µsec pulse minimum)		I _{R2}	—	100	1000	µA
Junction Capacitance (V _R = 10V, f = 1MHz, T _A = 25°C)		C _J	—	280	320	pF

NOTES:

* Pulse Test: Pulse Width = 300 µsec, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ For Package Outlines Contact Factory.

3/ Electrical Characteristic per Leg

4/ Derate Linearly at 0.28A/°C for T_C > 55°C.

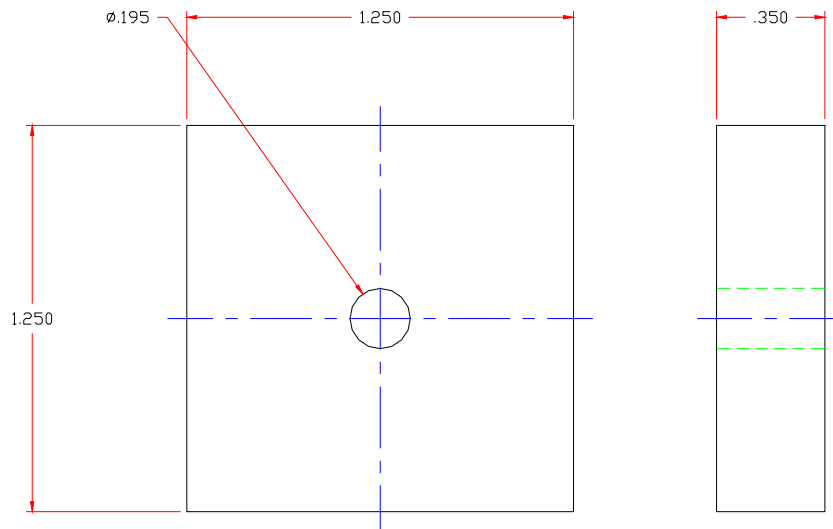
5/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

Available Part Numbers:

SPA555M; SPA555ML; SPA555MSM

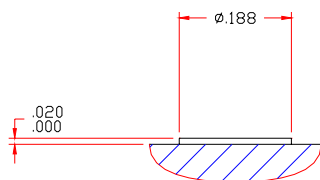
SPA555N; SPA555NL; SPA555NSM

Mounting Diagram: ^{2/}



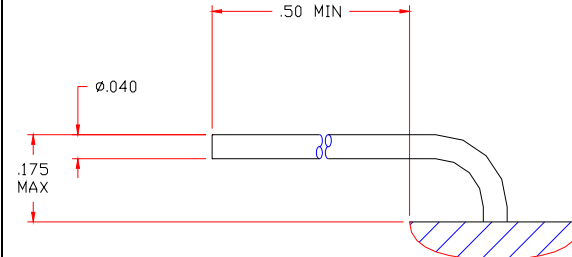
Terminal Details

SPA555 (SM)



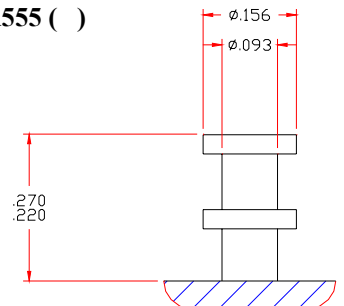
Terminals are spaced at .650" square

SPA555 (L)



Leads are spaced at .250"

SPA555 ()



Terminals are spaced at .650" square